MECABLITZ 60 CT-4

Bedienungsanleitung
Gebruiksaanwijzing
Manuale istruzioni
Mode d'emploi
Operating instruction
Manual de instrucciones

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Foreword

Congratulations on purchasing this METZ flashgun, and thank you for your confidence in METZ equipment.

It is only natural that you should want to use your flashgun straight away. However, it will be well worth your while to study these Operating Instructions carefully beforehand to ensure that you can operate the flashgun effectively and without any problems.

☞ ***Please also oppen the back cover page with the illustrations.***

This flashgun can be used with:

- All cameras with a hot shoe in conjunction with the synch cable 45-54 (optional accessory).
- All cameras with synch connection in conjunction with the supplied synch cable.
- System cameras
  Optimal adaptation to your camera is achieved by using an SCA adapter. The enclosed SCA 300/3002 table will indicate the adapter you require for your particular camera model. This table also indicates the special flash functions that can then be completed by the given system.

Brief survey of the operating functions:

Configuration and operating modes

- 60 CT-4 with synch cable:
  Automatic flash mode, Ch. 4, Page 44.
  Manual flash mode, Ch. 5, Page 44.
- 60 CT-4 with SCA 300/3002-adapter:
  TTL-flash mode*, Ch. 3, Page 43.
  Automatic flash mode, Ch. 4, Page 44.
  Manual flash mode, Ch. 5, Page 44.

*Provided that the camera performs this function.

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Points worth knowing

The mecablitz 60 CT-4 is supplied complete with 60-38 battery and charger.

Outstanding features:

- Universal, swivelling quadrolight reflector for bounced flash without having to forgo the benefits of automatic exposure control.
- Secondary reflector that can be activated for front fill-in light with bounced flash exposures.
- Wide-angle diffuser with automatic data display changeover.
- Automatic exposure control with a selection of 8 working apertures to easily resolve the problems associated with depth-of-field and to offer greater creative scope regarding camera settings.
- Power-saving thyristor light output control, particularly in the close-up range, for shorter recycle times and a higher number of flashes from just one battery charge
- Correct exposure confirmation (auto check) with a long display duration.
- Convenient calculator dial for all settings.
- Manual mode or operation with partial light ouput.
- Operation with winder cameras.
- Illuminated setting centre.
- SCA 300 dedicated system. Adapters (optional accessories) will match the mecablitz with the special functions of different system cameras. Please refer to the enclosed SCA 300/3002 table to establish which adapter is required for the given camera. The table also lists the special flash functions which the system can then perform.

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Special flash functions

when using an SCA 300 adapter (if permitted by the camera):

- Flash-ready indication in the camera's viewfinder
- Correct exposure indication (auto check) in the camera's viewfinder
  A signal in the viewfinder of many cameras indicates correct exposure or under-exposure of the film when in automatic or TTL flash mode.
- Automatic flash synch speed control
  With most system cameras flash readiness causes the shutter speed to be automatically changed from the adjusted mode to flash synch speed. On some cameras slower adjusted shutter speeds are retained. The original shutter speed is automatically readjusted on the camera as soon as the flash-ready display has extinguished, or when the flashgun is switched off.
- TTL flash control
- Triggering control
  The flash is not fired if, as a result of the aperture set on the lens in keeping with the prevailing ambient light level, a shutter speed is adjusted on the camera that equals or is faster than the flash synch speed. The picture is then shot with the ambient light, thereby avoiding overexposure.
- First- or second-blind synchronization option
  This mode offers two possibilities of flash synchronization:
  - Either when the first blind of the focal plane shutter opens, or
  - just before closure of the second blind.
  The required synchronization is selected on the SCA adapter.
  Synchronization with the secon shutter blind is valuable when a slow shutter speed has to be used to shoot a moving object that has its own source of light.
- Program auto flash mode
  Some cameras merge in the „Program" mode the ambient light with the light emitted by the flashgun. The camera automatically adjusts a shutter speed/aperture combination, and controls the flash in TTL mode.
  Operation of the flash/camera combination thus becomes very simple.

If an SCA 3002 adapter is used in combination with an SCA 3000C connecting cable all SCA 300 functions can be performed, plus:

- Autofocus measuring beam
  The autofocus measuring beam is activated by the camera's electronic system as soon as the ambient light level is no longer sufficient for automa-

tic focusing. The autofocus emitter emits a striped pattern that is projected onto the subject. The camera then uses this pattern for automatic focusing.

- TTL fill-in flash control
  Some system cameras offer TTL fill-in flash control in addition to the standard TTL flash control mode. This operating mode is used for daylight exposures to brighten up dense shadows and for shots against the light (contre-jour). The camera's electronic system, in conjunction with the internal sensor measurement, ensures that the correct amount of flash light is emitted to achieve a balanced exposure. The camera automatically performs the flash exposure correction that is necessary for fill-in flash shots.
- TTL flash exposure correction
  There are certain photographic situations where the camera's internal sensor can be deceived. This can be particularly the case with a dark subject in front of a bright background (the subject is underexposed) or a bright subject in front of a dark background (the subject is overexposed). To overcome this problem in such a photographic situation and still achieve a correct exposure in TTL flash mode, some cameras offer a special flash exposure correction function. While normal exposure corrections by way of aperture and shutter speed settings, change of film speed or the +/- correction on the camera will influence all sections of a picture, such special correction function permits the overall light level to be retained while the darker shadowy sections are brightened up by flash. Further details on this mode are given in the respective operating instructions for the adapter and camera.

1. Safety instructions

- **The flash unit is exclusively intended and approved for photographic use!**
- **Never fire a flash in the vicinity of flammable gases or liquids (petrol, solvents, etc.) - DANGER OF EXPLOSION!**
- **Never take flash shots of car, bus or train drivers, or of motorcycle and bicycle riders, whilst they are travelling. They could be blinded by the light and cause an accident!**
- **Never fire a flash in the immediate vicinity of the eyes! Flash fired directly in front of the eyes of a person or animal can damage the retina and lead to severe visual disorders - even blindness!**
- **Only use the approved power sources listed in the Operating Instructions!**
- **Do not expose batteries to excessive heat, sunshine, fire and the like!**
- **Never throw exhausted batteries on to a fire!**
- **Exhausted batteries should be immediately removed from the flash unit! Lye leaking out of spent batteries will damage the unit.**
- **Never recharge dry-cell batteries!**
- **Do not expose the flash unit or battery charger to dripping or splashing water!**
- **Protect the flash unit from excessive heat and humidity! Do not store the flash unit in the glove compartment of a car!**
- **Never place material that is impervious to light in front of, or directly on, the reflector screen. The reflector screen must be perfectly clean when a flash is fired. The high energy of the flash light will burn the material or damage the reflector screen if this is not observed.**
- **Do not touch the reflector screen after a series of flash shots. Danger of burns!**
- **Never disassemble the flashgun! DANGER: HIGH VOLTAGE!**
- **There are no components inside the flashgun that can be repaired by a layperson.**

2. Preparing the flashgun for use

2.1 Attaching the flashgun to a camera

The flashgun can only be operated with synch cable a or the connecting cables SCA 300 A[1)] or SCA 3000 C[1)] and an SCA-300/3002 adapter[1)] on the camera.

[1)](Optional accessories)

☞ ***Be sure to switch off the mecablitz by its main switch prior to mounting or removing the standard foot or SCA adapter. Before mounting or removing the flash unit, switch off both the camera and the flash unit!***

Push adapter or 301 standard foot into the camera's accessory shoe and lock in place with the knurled nut.

An SCA-300 adapter and the 301 standard foot are connected to the flashgun with the SCA 300 A [1)] connecting cable.

An SCA-3002 adapter is connected to the flashgun with the SCA 3000 C [1)] connecting cable.

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Mounting the flashgun:

- Fasten the camera bracket with the bracket screw to the camera's tripod bush. For medium- and large-format cameras we recommend the use of the 70-35 bracket (optional accessory).
- Insert the camera bracket into the quick-release device ⑥ of the holder block until it is audibly engaged (fig. 1).
- Secure the camera bracket with the locking screw.
- Connect the synch or SCA cable to the flashgun and camera or adapter.

2.2 Power supply

The flash unit can only be operated with the 60-38 battery.

☞ ***Spent batteries must not be thrown into the domestic waste! Help keep the environment clean and discard spent batteries at corresponding collecting points!***

Before using the mecablitz for the first time, open the battery compartment cover ❾ (fig. 6) and remove the inserted cardboard insulating strip between the battery and contacts.

2.2.1 Charging the battery

The 60-38 rechargeable battery must only be charged with the battery charger (Table 2, Page 83). The operating voltage must be set on the battery charger prior to the charging operation.

2.3 Switching the flash unit ON and OFF

The flash unit is turned on with the main switch ⓫ (fig. 6). The in-use indicator ❿ (fig. 6) of the generator will then light up. Push the main switch into position "0" to turn off the flash unit.

The mecablitz is ready for operation as soon as the flash-ready indicator ⑮ (fig. 3) lights up.

2.4 Flash ready indication (visual and acoustic)

The mecablitz is ready for operation as soon as the flash-ready indicator ⑮ (fig. 3) lights up. Only then can a flash be fired.

An acoustic flash-readiness signal can be turned on with switch ❻ (fig 5).

A continuous acoustic signal for approx. 1 second indicates flash readiness, and the flash-ready indicator ⑮ (fig. 3) will light up.

2.5 Correct exposure indication (visual and acoustic)

The exposure o.k. indicator ⑯ (fig. 3) only lights up if the shot will be/has been correctly exposed in automatic or TTL flash mode.

This gives you the opportunity to manually fire a test flash in the auto flash mode in order to determine the correct aperture for a given subject - a procedure that can be otherwise daunting with bounce flash when the reflection conditions are difficult to judge in advance. A test flash cannot be fired in TTL mode.

The test flash is triggered with the manual firing button.

If the exposure o.k. indicator ⑯ (fig. 3) remains dark after firing a

test flash, then the next lower f- number must be set to widen the aperture, or the distance to the reflection surface or subject has to be shortened. Thereafter repeat the test flash.

The f-stop established in this manner also has to be set on the camera.

☞ ***Direct the flash unit with its sensor for the test flash in the same manner as for the subsequent flash shot.***

An audible warning signal can be turned on with the switch ❻ (fig. 5). When the shot has been correctly exposed there will be a continuous audible buzzing signal for approx. 1 second.

2.6 Possible types of buzzer signals

A continuous audible sound is generated after a flash has been fired and both the exposure o.k. indicator ⑯ (fig. 3) and flash ready indicator ⑮ light up - **correct exposure and flash readiness**.

A continuous audible sound is generated after a flash has been fired and only the exposure o.k. indicator ⑯ (fig. 3) lights up - **correct exposure, but no flash readiness**.

There is no audible sound after a flash has been fired, and the exposure o.k. indicator ⑯ (fig. 3) and flash ready indicator ⑮ do not light up - **underexposure**.

3. TTL Flash Mode

(only with SCA adapter)

Perfect flash exposures can be shot in a simple manner in TTL mode.

The exposure readings in TTL mode are made by the sensor built into the camera (fig. 5). This sensor measures the light reaching the film through the camera lens. As soon as the film has been exposed by the correct amount of light, an electronic control circuit within the camera transmits a stop signal to the adapter (optional accessory), and the flash is instantly cut out.

The advantage of this flash mode is that all factors influencing the exposure of the film (filters, change of aperture and focal length with zoom lenses, extensions for close-ups, etc.) are automatically taken into account.

☞ ***The TTL flash mode is only possible with cameras that feature this function. The flashgun must be fitted with a corresponding SCA adapter for this purpose. A film must be loaded in the camera to test the TTL functions.***

☞ ***Exposure corrections may be necessary with pronounced differences in contrast, for instance dark objects in snow (see Ch. 10.2).***

Adjusting procedure for TTL flash mode:

- Set the camera as indicated in the camera's operating instructions.
- Equip the flash unit with the appropriate SCA adapter and mount on the camera.
- Turn on the flash unit with the main switch ⓫ (fig 6).
- Push the locking key ⑰ (fig. 3) downwards and unlock the setting centre.
- Turn the knurled knob ⑬ (fig. 3) until "TTL" appears in the window ⑫ (fig 3).
- Push the locking key upwards and lock the setting centre.

The maximum flash range for the given camera aperture can be read off the setting dial on the reflector opposite the camera's f-number.

Set the index mark ❷ (fig. 4) in the "Man.:1" position. The minimum flash-to-subject distance amounts to approx. 20% of the maximum flash range.

☞ ***To check the range, the flash can only be fired by the camera and not by way of the manual firing button on the flashgun (where possible the camera should be adjustet to multiple exposure.***

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4. Automatic Flash Mode

In the automatic flash mode the photosensor measures the light reflected from the subject. The flash is cut off as soon as sufficient light has been emitted for correct exposure.

In this manner there is no need to calculate and set a new aperture when the distance is changed, provided that the subject remains within the indicated automatic flash range.

The photosensor of the flashgun must be directed at the subject, regardless of the direction at which the main reflector is pointing. The photosensor has a measuring angle of approx. 25°, and it only measures the actual amount of light emitted by the flashgun.

Six working apertures are available in the automatic flash mode.

Adjusting procedure for the automatic flash mode:

Example:
Flash-to-subject distance: 5 m
Film speed: ISO 100/21°

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- Adjust the camera according to the manufacturer's operating instructions.
- Switch on the flashgun with the main switch.
- Set the film speed with the setting knob ⑨ (fig. 1) on the flashgun's handle. A flash-to-subject distance of 5 m allows for the auto working apertures of f/11 - f/8 - f/5.6 - f/4 - f/2.8 - f/2 - f/1.4 - f/1 provided that the maximum working range is observed.
- Adjust the knurled knob ⑬ (fig. 3) to one of the auto working apertures. The minimum flash-to-subject distance is approx. 10% of the maximum working range.
- Adjust the same aperture on the flashgun and the camera. To achieve the shortest possible depth-of-field (as required in portraiture) we recommend an aperture of f/1. For group shots where there can be several rows of people behind each other, we recommend an aperture of f/11.
- Wait for flash readiness - the green LED lights up.

☞ ***The subject should be within the middle third of the distance range. This gives the electronic control sufficient scope for compensation should this be necessary.***

There is a certain measure of overlap between the individual automatic apertures. As a result of this overlap it is always possible to place the subject within the middle third of the range.

☞ ***CAUTION with zoom lenses!***
Due to their design they can cause a loss of light in the order of up to one f-stop. Furthermore, the effective aperture can also vary, depending upon the adjusted focal length. This must be compensated by manually correcting the aperture setting on the flashgun!

5. Manual Flash Mode

In this mode the flashgun will emit its full power, provided that partial light output (M1/2 - M1/256) has not been adjusted. The flashgun can be adapted to the actual picture shooting situation by setting the corresponding aperture on the camera.

If the displayed value does not coincide with the actual distance, then the aperture and/or partial light output level have to be changed accordingly.

The decisive points for partial light output are:

- The distance to the subject
- The required aperture
- The ISO film speed

Adjusting procedure for the manual flash mode:

Example:
Flash-to-subject distance: 5 m
Film speed: ISO 100/21°
Partial light output 1/8

- Set the camera as indicated in the camera's operating instructions.

- Turn on the flash unit with the main switch ⓫ (fig 6).
- Turn the setting knob ❹ (fig. 4) on the flash head to set the film speed. The white setting mark must be positioned opposite the ISO film speed rating. Set the film speed also on the setting centre on the flashgun's handle.
- Push the locking key ⑰ (fig. 3) downwards to unlock the setting centre.
- Turn the knurled knob ⑬ (fig. 3) until "M" appears in the window.
- Push the locking key ⑰ (fig. 3) upwards to lock the setting centre.
- Set the dial ❶ (fig. 4) at MAN 1/8.
  An f-number is now positioned opposite the indicated distance. This f-number is the aperture that has to be set.

☞ ***At a flash-to-subject distance of 5 m (as in our example), an aperture of f/8 has to be set on the camera. The adjusted aperture must be corrected when the wide-angle diffuser is used. The settings calculator takes the wide-angle diffuser into account.***

6. Bounce Flash

Photos shot with full frontal flash are easily recognizable by their harsh, dense shadows. This is often associated with a sharp drop of light from the foreground to the background.

This phenomenon can be avoided with bounce flash because the diffused light will produce a soft and uniform rendition of both the subject and the background. For this purpose the main reflector is turned in such a manner that the flash is bounce back from a suitable reflective surface (e.g. ceiling or walls of a room).

For this reason the main reflector can be turned vertically and horizontally. The following are the vertical lock-in positions for bounce flash:

- 15°, 30°, 45°, 60°, 75° and 90° (simply tilt the reflector to the required angle)

The head can be swivelled horizontally to the left and right by 180°, and locks into position at 90° and 180°.

☞ ***When swivelling the reflector vertically, it is essential to ensure that it is turned by a sufficiently wide angle so that direct light can no longer fall on the subject. Therefore, always tilt the reflector to at least the 60° lock-in position.***

The diffused light bounced back from the reflective surfaces results in a soft illumination of the subject.

The reflecting surface must be white or a neutral colour, and it must not be structured (e.g. wooden beams in the ceiling) as this could cast shadows. For colour effects just select reflective surfaces in the required colour.

Use of the secondary reflector is advantageous to avoid disturbing dense shadows with bounced flash, for instance under the eyes and nose of portraits.

6.1 Bounce flash with activated secondary reflector

The secondary reflector ⑱ (Fig. 3) produces frontal fill-in light when the flash is bounced.

The use of the secondary reflector is only expedient with bounce flash.

Switch turns the secondary reflector on and off.

When the secondary reflector is activated, 85% of the light will be emitted by the main reflector, and approx. 15% by the secondary reflector. The quoted percentages may vary somewhat when flash with partial light output is adjusted, and the secondary reflector switched on.

Light output can be reduced with a light reducing filter by approx. 40%. For this purpose place the reducing filter over the secondary reflector and press both sides firmly until the filter audibly clicks into position.

6.2 Bounced flash in automatic and TTL flash modes

It is advisable to check prior to the actual exposure whether the light is sufficient for the selected aperture. Please refer to Ch. 2.5, for the corresponding procedure.

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6.3 Bounce flash in manual flash mode

The required camera aperture in the manual flash mode is best established with an exposure meter. Observe the following rule of thumb if an exposure meter is not available

$$\text{Camera aperture} = \frac{\text{guide number}}{\text{light distance} \times 2}$$

to establish the guide value for the aperture that can then be varied by +1 f-stop for the actual exposure.

7. Winder/Motordrive Mode

Definition:

In the winder/motordrive mode a series of pictures can be shot at the rate of several frames per second. The winder mode is based on partial light output levels.

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Up to 2 flashes per second can be fired in the "Winder W" mode; up to 5 flashes per second are possible in the "Motordrive MD" mode.

Setting procedure for picture shooting in the winder flash mode:

- Set the camera as indicated in the camera's operating instructions.
- Turn on the flash unit with the main switch ⓫ (fig 6).
- Turn the setting knob ❹ (fig. 4) on the flash head to set the film speed. The white setting mark must be positioned opposite the ISO film speed rating. Set the film speed also on the setting centre on the flashgun's handle.
- Set the dial ❶ (fig. 4) at W or MD.
- Await flash readiness ⑮ (fig. 3) - the green LED will light up.

The aperture to be set on the camera can be read off the scale opposite the flash-to-subject distance.

8. Fill-in Flash in Daylight

The mecablitz can also be used for fill-in flash in daylight to soften harsh shadows and lower the contrast, thereby producing a more balanced exposure when shooting against the light. Various possibilities are open to the user for this purpose.

8.1 Fill-in flash in automatic mode

Use the camera, or a hand-held exposure meter, to establish the required aperture and shutter speed for a normal exposure. Ensure that the shutter speed either equals, or is slower than, the fastest flash synch speed (varies with the given camera model).

Example:

Established aperture = f/8; established shutter speed = 1/60 sec. Flash synch speed of the camera, e.g. 1/100 sec. (see operating instructions for the given camera).

The two established values for aperture and shutter speed can be set on the camera because the camera's shutter speed is slower than the camera's flash synch speed.

To maintain a balanced range of highlights, for instance in order to retain the character of the shadows, it is advisable to select the automatic aperture on the flashgun one setting lower than the aperture adjusted on the camera. In the above example the camera was adjusted to f/8. Consequently, we advise you to set an aperture of f/5.6 on the flashgun.

☞ ***When shooting into the light, ensure that the backlight does not shine directly onto the sensor as this will confuse the flashgun's electronics!***

8.2 Fill-in flash in manual mode

The partial light output levels can be used in manual flash mode to achieve the required brightening effect of fill-in flash.

Complete illumination of shadow areas

Use the camera, or a hand-held exposure meter, to establish the required aperture and set this value on the camera and on the flash unit. The given

maximum range of the flashgun is indicated on the setting centre. If the distance to the subject is shorter than the indicated maximum flash range, then select a partial light output level to match the distance.

Stepped brightening

Use the camera, or a hand-held exposure meter, to establish the required aperture and adjust this value on the camera. To diminish the brightening effect compared with full illumination of shadow areas, reduce the partial light output level of the flashgun by one setting.

8.3 Fill-in flash in TTL mode

Some camera models automatically control fill-in flash when in program or automatic modes. The manner of camera internal fill-in flash control varies greatly between modern camera models, making it impossible to give a precise description of the individual adjusting procedures. These are normally specified in the operating instructions for the given camera.

Shadows can also be brightened with a flashgun in TTL mode on cameras that do not feature a special fill-in flash program or setting. In such cases the effect of fill-in flash depends upon the characteristics of the camera's TTL metering system. Consequently, in many instances, it will be advisable to adjust automatic mode for fill-in flash.

9. Illumination and Wide-Angle Diffuser

The wide-angle diffuser widens the horizontal lighting angle from 62° to 65°, and the vertical lighting angle from 42° to 60°.

The wide-angle diffuser is intended for use with focal lengths of less than 28 . . 35 mm (for 24 x 36 mm), and less than 50 . .75 mm (for 6 x 6 cm).

The wide-angle diffuser automatically diminishes the maximum flash ranges.

10. Exposure Corrections

The automatic exposure systems are based on a subject reflection factor of 25%, this being the average reflection factor for subjects shot with flash.

Dark backgrounds absorb a lot of light, while bright backgrounds reflect a great deal of light (e.g. backlit scenes), thereby resulting in subject overexposure or underexposure, respectively.

10.1 Exposure correction in automatic flash mode

To compensate the above mentioned effect, the exposure can be corrected by opening or stopping down the camera's aperture. With a bright background the sensor of the flashgun cuts out the flash too soon with the result that the actual subject is too dark. With a dark background the flash is cut out too late so that the actual subject is too bright.

☞ ***Bright background:***
Open the camera aperture by 1/2 to 1 f-stop (e.g. from f/5.6 to f/4).

☞ ***Dark background:***
Close the aperture by 1/2 to 1 f-stop (e.g. from f/8 to f/11).

10.2 Exposure correction in TTL flash mode

Many cameras feature an adjusting element for exposure corrections that can also be used in TTL flash mode.

☞ ***Please observe the corresponding explanations in the Operating Instructions for the camera.***

Here, exposure correction by changing the aperture on the lens is not possible. This is because the camera's automatic exposure system will regard the changed f–stop as a normal working aperture.

11. Care and Maintenance

Remove dust and grime with a soft dry cloth, or a silicon-treated cloth. Do not use detergents as these may damage the plastic parts.

Forming the flash capacitor

The flash capacitor incorporated in the flashgun undergoes a physical change when the flashgun is not switched on for prolonged periods. For this reason it is necessary to switch on the flashgun for approx. 10 minutes every 3

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months. The battery must supply sufficient power to light up the flash-ready light within one minute after the flashgun was switched on.

12. Technical Data

Guide numbers at ISO 100/21°:
In the metric system: 60 In the imperial system: 197

8 auto apertures at ISO 100/21°:

2 - 2,8 - 4 - 5,6 - 8 - 11 - 16 - 22

Flash durations:

- approx. 1/200 . . . 1/20.000 sec.
- in M mode approx. 1/200 sec. at full light output.
- in winder mode approx. 1/14000 sec.
- in motordrive mode approx. 1/5500 sec.

Coverage angle of sensor: approx. 25°

Colour temperature: approx.: ca. 5600 K

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Film speed: ISO 25 to ISO 3200

Synchronisation: low-voltage thyristor ignition

Number of flashes:

160* . . .4500 .

800 in winder mode.

1200 in motordrive mode.

* at full light output

Recycling time:

5 Sek. (in M mode) . . . 0,25 Sek.

in winder mode approx. 0.4 sec.

in motordrive mode approx. 0.2 sec.

Swivelling ranges and locking positions of flash head:

upwards: 15° 30° 45° 60° 75° 90°

counter-clockwise 90° 180°

clockwise 90° 180°

Dimensions approx. in mm (wxhxd)
Flash unit 102 x 254 x 102

Generator 126 x 165 x 58

Weight:
Flash unit approx. 650 g

Generator with 60-38 battery approx. 1850 g

Table 1: Guide numbers at maximum light output (page 82)

Table 2: Chargers (page 83)

Table 3: Flash durations at the individual partial light output levels (page 83)

Included:

Flash unit, bracket, 60-38 battery, generator, connecting cable, charger, synch cable 45-47, light reducing filter 45-44, operating instructions, SCA 300/3002 table.

13. Optional accessories

☞ ***Malfunctions and damage caused to the mecablitz 60 CT-4 due to the use of accessories from other manufacturers are not covered by our guarantee!***

- Adapter of the System SCA 300.
  For flash operation with system cameras (see separate operating instructions). The SCA 300 A connecting cable is additionally required.
- Adapter of the System SCA 3002
  For flash operation with system cameras with digital data transmission of the SCA function. The SCA 3000 C connecting cable is additionally required.
- Bounce diffuser 60-33 (Order No: 000060334)
  To soften heavy shadows with reflected light.

- Battery charger B 27 (Order No: 000100272)
  to charge the 60-38 battery and 60-39 NiCad pack
- Camera bracket 70-35 (Order No: 000070353)
  To attach the flashgun to the side of the camera.
- Camera cable release 60-20 (Order No: 000060205)
  The camera shutter can be tripped with the same hand that is holding the flashgun. This frees the other hand for focusing.
- Electric shutter release 60-25 (Order No: 000060256)
  As 60-20, except with switch for electric actuation.
- Filter set 60-21 (Order No: 000060213)
  Consists of a set of 4 colour effects filters and 1 clear filter to hold any coloured foil.
- Mecalux 11 (Order No: 000000112)
  Slave triggering unit. For optical, delay-free remote triggering of slave flashguns by a camera-triggered flash. Responds also to infrared light beam. Does not require batteries.
- Mecalux Holder 60-26 (Order No: 000060264)
  To mount the Mecalux 11.
- Shoulder strap 50-31 (Order No: 000050319)
- Shoulder strap 60-80 (Order No: 000060802)
- Standard foot 301 (Order No: 000093014)
  Used in conjunction with SCA 300 A for connection to camera hot shoe.
- Synch lead SCA 300 A (Order No: 000093057)
  Cable to connect the flashgun to the adapter of the SCA 300 System.
- Synch lead SCA 3000 C (Order No: 000330031)
  Cable to connect the flashgun to the adapter of the SCA 3000 System.

- Synch leads:
  Coiled synch lead 45-49 (Order No: 000045499)
  Coiled synch lead 45-54 for hot shoe (Order No: 000045542)
  Synch lead 45-48, 1 m (Order No: 000045480)
  Synch extension lead 60-54 (5 m) (Order No: 000060541)
- Telephoto attachment 60-42 (Order No: 000060420)
  For flash shots with telelenses. Nearly doubles the guide number. Infrared shots are also possible.
- TTL Multiconnector SCA 305 A (Order No: 000305013)
  The SCA 305 A permits simultaneous connection of several SCA system flash units to a TTL-capable system camera, without sacrificing special flash functions.
- Connecting cable 60-61 (Order No: 000060611)
  3 m cable
- Connecting cable, coiled, 60-59 (Order No: 000060592)
- Extension cable SCA 305 S (Order No: 000305021)
  Connecting cable for handle-mount flash units
- Extension cable SCA 305 V5 (Order No: 000305064)

Disposal of batteries

Do not dispose of spent batteries with domestic rubbish.

Please return spent batteries to collecting points should they exist in your country!

Please return only fully discharged batteries.

Normally, batteries are fully discharged if:

- The device they powered switches itself off and indicates "Spent Batteries".

- They no longer function properly after prolonged use.

To ensure short-circuit safety please cover the battery poles with adhesive tape.

ISO	Leitzahl, N°-guide, Richtgetal Guide number, Numero guida, N°-Guia	
	[m]	[ft]
25/15°	30	99
32/16°	34	111
40/17°	38	124
50/18°	42	139
64/19°	48	156
80/20°	53	176
100/21°	60	197
125/22°	67	221
160/23°	76	248
200/24°	85	278
250/25°	95	312
320/26°	107	350
400/27°	120	393
500/28°	134	441
650/29°	151	495
800/30°	169	555
1000/31°	190	623

Tabelle 1: Leitzahlen bei maximaler Lichtleistung
Tableau 1: Nombres-guides pour niveau de puissance maximal
Tabel 1: Richtgetallen bij vol vermogen
Table 1: Guide numbers at maximum light output
Tabella 1: Numeri guida a potenza piena
Tabla 1: Número-guía con plena potencia de luz

Land Pays Country Paese Pais	Ladegerät Typ Type de chargeur Laadapparaten Type of charger Tipo di ricricatore Modelo de cargador
Europa	729
Great Britain	723
USA / Canada	728
Australien	722
Japan	730
Südafrika	402.12e
Neuseeland	725
Korea	726

Tabelle 2: Ladegeräte
Tableau 2: Chargeurs
Tabel 2: Laadapparaten
Table 2: Chargers
Tabella 2: Apparecchi di ricarica
Tabla 2: Cargadores

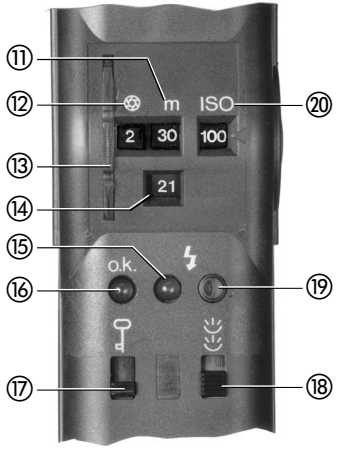
Teillichtleistungsstufen Niveaux de puissance Deelvermogensstappen Partial light output levels Potenza flash Potencias parciales de luz	Blitzleuchtzeiten Durées de l'éclair Flitsduur Flash duration Durata del lampo Duración de destello	Leitzahl N°-guide Richtgetal Guide number Numero guida N°-Guia
1	1/200 sec	60
1/2	1/300 sec	42
1/4	1/800 sec	30
1/8	1/1500 sec	21
1/16	1/2500 sec	15
W = 1/32	1/4000 sec	10
MD = 1/64	1/5500 sec	7
1/128	1/7000 sec	5
1/256	1/8500 sec	4

Tabelle 3: Blitzleuchtzeiten in den Teillichtleistungsstufen
Tableau 3:Dureé de l'éclair pour les differents niveaux de puissance
Tabel 3: Flitsduur en deelvermogensstappen
Table 3: Flash durations at the individual partial light output levels
Tabella 3: Durata del lampo ai vari livelli di potenza flash
Tabla 3: Duraciones de destellos en los escalones de potencias parciales de luz

Bild 1
Fig. 1
Afb. 1
Grab. 1

Bild 2
Fig. 2
Afb. 2
Grab. 2

Bild 3
Fig. 3
Afb. 3
Grab. 3



① Umschalter für Weitwinkeldatenanzeige
Commutateur pour adaptation des données lors de la pose du diffuseur
Omschakelaar voor aanduiding van de groothoekgegevens
Switch for display of wide angle data
Commutatore per indicazione dati con grandangolo
Conmutador para indicación de datos de gran angular

② Reflektor / Réflecteur / Reflector / Riflettore

③ Weitwinkelvorsatz / Diffuseur grande-angle / roothoekvoorzetstuk
Wide angle diffusor / Diffusore grandangolo / Difusor angular

④ Sensor / Sensore

⑤ Schienenhalter / Support de barrette / Beugelhouder,
Bracket holder / Supporto staffa / Porta-regleta

⑥ Schnellraste / Fixation rapide / Snelkoppeling,
Quick-release device / Agganciamento rapido / Zapata rápida

⑦ Stativgewinde / Filet trépied / Statiefmoer,
Tripod socket / Filettatura stativo / Rosca de trípode

⑧ Zweitreflektor / Réflecteur secondaire / Tweede reflector,
Secondary reflector / Parabola ausiliaria / Reflektor adicional

⑨ Einstellknopf für Filmempfindlichkeit / Clef de réglage pour la rapidité / Instehendel voor filmvoeligheid / Film speed setting knob / Pomello d'impostazione della sensibilità / Botón de ajuste de la sensibilidad de película

⑩ Synchronkabelbuchse / Prise du câble synchro / Aansluiting voor flitskabel / Sync cord socket / Presa per cavetto sincro / Conexión para cable sincro

⑪ max. Blitzreichweite / Camps couverts / max. flitsafstand /
max. flash range / distanza massima / Indicación del alcane máximo

⑫ Blende / Diaphragme / Diafragma
Aperture / Diaframma / Diafragma

⑬ Einstellrad für Blendenanzeige, man. Blitzbetrieb, TTL-Blitzbetrieb
Molette pour affichage du diaphragme en fonctionnement
Instelwiel voor diafragma-aanduiding, flitsen zonder computer, TTL-flitsen
Knurled knob for display of aperture, manual mode, TTL mode
Selettore per l'indicazione diaframma, uso flash in manuale, uso flash
Rueda de ajuste de la indicación del diafragma, funcionamiento manual, TTL

⑭ max. Blitzreichweite mit Weitwinkelvorsatz / Affichage de la portée max, avec diffuseur grand-angle / max. flitsafstand bij gebruik van het groothoekvoorzetstuk / max. flash range with wide angle diffusor / distanza massima con diffusore grandangolo /
Indicación del alcane máximo usando el difusor angular

⑮ Blitzbereitschaftsanzeige / Témoin de disponibilité /
Flitsparaataan-duiding / Flash ready indicator / Indicazione pronto lampo / Indicador de disposición

⑯ Belichtungskontrollanzeige / Témoin de contrôle d'exposition /
Aanduiding van de belichtingscontrol / Exposure o.k. /
Indicazione di controllo esposizione / Indicación de control de la exposición

⑰ Verriegelungsschalter / Commutateur de verrouillage /
Vergrendelingsschakelaar / Locking key / Cursore di blocco dei comandi / Interruptor de bloqueo

⑱ Zweitreflektor ein-aus / Commutateur pour réflecteur secondaire / Tweede reflector aan-uit / Secondary reflector on-off /
Parabola ausiliaria si-no / Reflektor adicional con-des

⑲ Handauslöse / Bouton d'open-flash / Hand-ontsteker / Manual firing button / Scatto sincro manuale / Disparador manual

⑳ Filmempfindlichkeit / Sensibilité du film / Filmgevoeligheid / Film speed preselector / Sensiblilità della pellicola / Sensibilidad de usuario

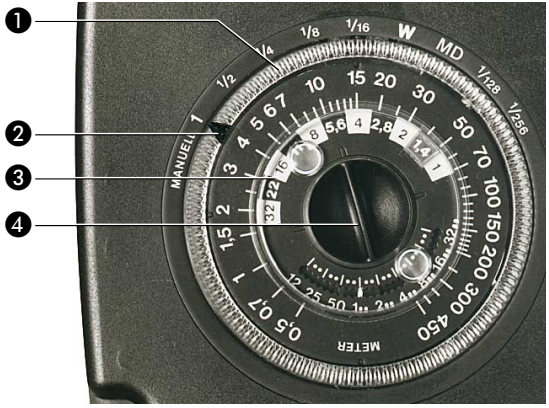


Bild 4 / Fig. 4 / Afb. 4 / Grab. 4

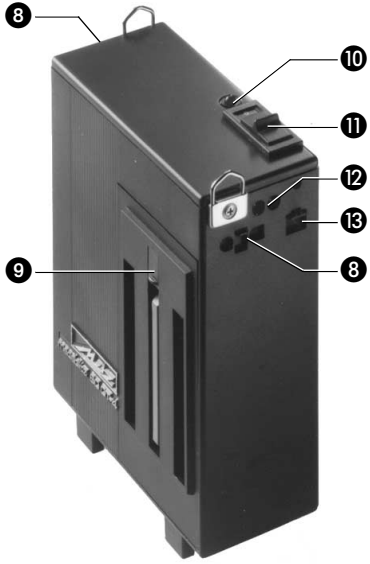


Bild 6
Fig. 6
Afb. 6
Grab. 6

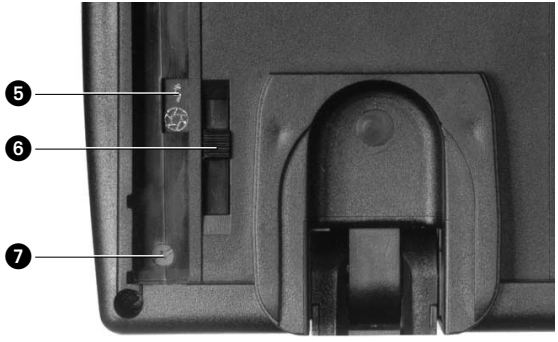


Bild 5 / Fig. 5 / Afb. 5 / Grab. 5

❶ Einstellscheibe für Lichtleistung / Cadran de réglage des degrés de puisance lumineuse / Instellschijft voor vermogensschakelingen / Light output ratio dial / Selettore per i vari livelli di potenza luminosa Disco de ajuste de los escalones de potencia de luz

❷ Pfeilmarke zur Einstellung der Lichtleistungsstufe / Repére en flèche pour le réglage de la puissance lumineuse / Aanwijspijl voor instellen van het vermogen / Index mark for light output ratio settings / Indice per l'impostazione dei livelli di potenza luminosa Indice de ajusto de los escalones de potencia de luz

❸ Einstellmarke für Blendenvorwahl / Repère de réglage carré pour la présélection du diaphragme / Instelmarkering voor diafragmavoorkeuze / Setting mark for preselection of aperture / Indice quadrato per preselezionare i diaframmi / Indice para la preselección de diafragma

❹ Einstellknopf für Filmempfindlichkeit / Clef de réglage pour la rapidité / Instehendel voor filmvoeligheid / Film speed setting knob / Pomello d'impostazione della sensibilità / Botón de ajuste de la sensibilidad de película

❺ Anzeige für Summersignal / Témoin des signaux acoustiques / Aanduiding van de zoemsignalen / Indicator window for acoustic signals / Indicazione dei segnali acustici / Indicación de las señales acústicas

❻ Schalter für Summersignal / Interrupteur des signaux acoustiques / Schakelaar voor de zoemsignalen / Switch for acoustic signals / Interruttore dei segnali acustici / Interruptor de las señales acústicas

❼ Lautstärkeregler / Réglage du volume sonore / Geluidsvolumenregelaar / Adjustment of sound volume / Volume dei segnali acustici / Regulador de volumen

❽ Anschlußbuchse für Verbindungskabel zum Leuchtenstab
Prise pour câble de connexion de la torche
Aansluiting voor verbindingskabel naar de lamstaaf
Connecting socket for flashgun
Presa per il cavo di collegamento con la torcia
Conexión para el cable al reflektor

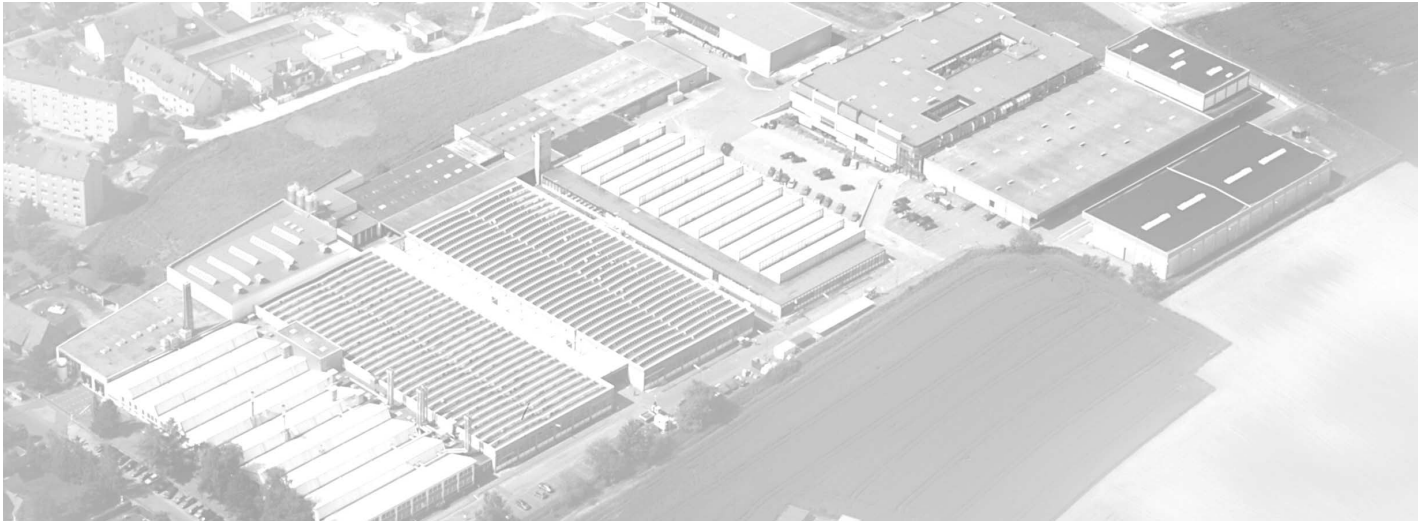
❾ Verschluß Akkufachdeckel / Bouton pour la fermeture du couvercle du logoment de l'accu / Afsluitknop van het accuvakdeksel / Battery compartment cover knob / Pornello di apertura del coperchio-vano-accumulatore / Cierre de la tapa del compartimento de bateria

❿ Betriebsanzeige / Indicateur de fonctionnement / Aanduiding voor het in bedrijft / In-use indicator / Indicatore fi funzionamento / Indicador del funcionamento

⓫ Hauptschalter / Interrupteur général / Hoofdschakelaar / Main switch / Interruttore principale / Interruptor principal

⓬ Ladeanzeige rot/grün
Indicateur de charge rouge/vert
Laadaanduiding rood/groen
Moniroting light red/green
Indicatore di ricarica rosso/verde
Indicador de carga rojo/verde

⓭ Ladeanschlußbuchse / Prise de branchement pour la recharge / Aansluiting acculader / Charging socket / Contatto di connessione per la ricarica / Conexión para la carga



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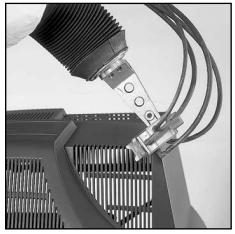

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